

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 21 May 2001 (21.05.01)	
International application No. PCT/NL00/00495	Applicant's or agent's file reference BO 42685
International filing date (day/month/year) 13 July 2000 (13.07.00)	Priority date (day/month/year) 13 July 1999 (13.07.99)
Applicant DE NOOD, Cornelis, Simon, Adriaan et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

13 February 2001 (13.02.01)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Zakaria EL KHODARY Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BO 42685	FOR FURTHER ACTION		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/NL 00/ 00495	International filing date (day/month/year) 13/07/2000	(Earliest) Priority Date (day/month/year) 13/07/1999	
Applicant DUTCH A&A TRADING B.V.			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

P L 00/00495

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07C9/00 G08B13/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07C G08B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 541 585 A (DUHAME DEAN C ET AL) 30 July 1996 (1996-07-30) the whole document	1-8
X	W0 93 09621 A (LEE KWANG SIL) 13 May 1993 (1993-05-13) abstract page 19, line 31 -page 20, line 7	1-8
X	EP 0 921 505 A (INT COMPUTERS LTD) 9 June 1999 (1999-06-09) the whole document	1-8
X	W0 98 11520 A (CHECKPOINT SYSTEMS INC) 19 March 1998 (1998-03-19) abstract	1-8

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

16 October 2000

Date of mailing of the international search report

24/10/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Sgura, S

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 00/00495

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5541585	A	30-07-1996	NONE	
WO 9309621	A	13-05-1993	KR 9705637 B	18-04-1997
			AT 153202 T	15-05-1997
			AU 658459 B	13-04-1995
			AU 2896992 A	07-06-1993
			BR 9205419 A	19-04-1994
			CA 2098594 A	01-05-1993
			DE 69219756 D	19-06-1997
			DE 69219756 T	18-12-1997
			EP 0565685 A	20-10-1993
			HU 65528 A	28-06-1994
			JP 6511097 T	08-12-1994
			US 5475377 A	12-12-1995
			US 5565857 A	15-10-1996
			CN 1086284 A	04-05-1994
			KR 225912 B	15-10-1999
EP 0921505	A	09-06-1999	ZA 9810549 A	25-05-1999
WO 9811520	A	19-03-1998	US 5745036 A	28-04-1998
			AU 716240 B	24-02-2000
			AU 4079197 A	02-04-1998
			CN 1230270 A	29-09-1999
			EP 0928468 A	14-07-1999

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REC'D 08 OCT 2001

WIPO PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BO 42685 Kr		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL00/00495	International filing date (day/month/year) 13/07/2000	Priority date (day/month/year) 13/07/1999	
International Patent Classification (IPC) or national classification and IPC G07C9/00			
Applicant DUTCH A&A TRADING B.V.			



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 13/02/2001	Date of completion of this report 04.10.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Königler, A Telephone No. +49 89 2399 2260 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00495

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
- Description, pages:**

3-5 as originally filed

1,1a,2 as received on 28/08/2001 with letter of 28/08/2001

Claims, No.:

1-6 as received on 28/08/2001 with letter of 28/08/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00495

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	2-6
	No:	Claims	1
Inventive step (IS)	Yes:	Claims	2-6
	No:	Claims	1
Industrial applicability (IA)	Yes:	Claims	1-6
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO 98 11520 A (CHECKPOINT SYSTEMS INC) 19 March 1998 (1998-03-19)

D2: US-A-5 541 585 (DUHAME DEAN C ET AL) 30 July 1996 (1996-07-30)

2. Independent claim 1

- 2.1. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

Detection system comprising at least a receiver (16), a detector (14) and an element (18) that can be brought into one or more predetermined states, the receiver reacting to the states of the element when the latter is brought into the vicinity of the receiver and controlling the detector to emit a detection signal that is associated with the state of the element (see also Figs. 1 and 3, column 7, lines 3-27), and further comprising a video camera (54) focused on the surroundings of the receiver for recording the wearer wearing the element and a memory device (62) fitted for storing the images captured by the video camera, characterized in that the memory device is equipped for temporary storage of the recorded video images for a predetermined period and permanent storage of the temporarily stored video images in response to the detection signal from the detector (see column 6, lines 51-64).

Thus, the subject-matter of claim 1 is not new (Article 33(2) PCT).

- 2.2. Furthermore it is noted, that the disclosure of D2 also anticipates the subject-matter of claim 1. As stated in the communication from the applicant dated from 28.08.2001 all the features of the preamble of the present claim 1 are known from D2. Since in D2 (like in D1) a video recorder unit is used as memory element for the captured video images, it is both equipped for temporary continuous storage and permanent storage of the video images in response to the detection signal from the detector (page 18, lines 7-14). Due to the nature of video tapes they can

be written and erased. Therefore they are suited both for temporary and permanent storage.

3. Dependent claims

3.1. Dependent claim 2:

The separation of the memory device into a temporary memory section and a permanent memory section, connected to each other by a transfer channel is not disclosed or suggested by D1 or D2. Furthermore both D1 and D2 don't address the problem of saving memory space, to handle more efficiently the stored video images.

Thus the subject-matter of claim 2 is regarded to be novel and inventive (Articles 33(2) and 33(3) PCT).

3.2 Dependent claims 3-6:

The dependent claims 3-6 define advantageous embodiments and further developments of the device and method of claim 2.

Their subject-matter is therefore also new and inventive (Article 33(2) and (3) PCT).

Concerning dependent claim 5 please note also the comments made in Section VIII.

Re Item VII

Certain defects in the international application

4. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Re Item VIII

Certain observations on the international application

5. The wording '...for storing **the** data...' used in claim 5 is unclear, since a data on the element has not been introduced in the foregoing claims. Thus it leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT).

0 9. 08. 00

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REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No. 00 / 00495
13 JUL 2000 (13.07.00)
International Filing Date
NAME OF RECEIVING OFFICE AND "PCT INTERNATIONAL APPLICATION"
Applicant's or agent's file reference (if desired) (12 characters maximum) BO 42685

Box No. I TITLE OF INVENTION	
Detection system with video camera	
Box No. II APPLICANT	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
DUTCH A&A TRADING B.V. P.O. Box 311 NL-3840 AH HARDERWIJK the Netherlands	
State (that is, country) of nationality: the Netherlands (NL)	
State (that is, country) of residence: the Netherlands (NL)	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input checked="" type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
DE NOOD, Cornelis Simon Adriaan Kleine Marktstraat 11 NL-3841 BD HARDERWIJK the Netherlands	
State (that is, country) of nationality: the Netherlands (NL)	
State (that is, country) of residence: the Netherlands (NL)	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input checked="" type="checkbox"/> agent <input type="checkbox"/> common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
JORRITSMA, Ruurd et al Nederlandsch Octrooibureau Scheveningseweg 82, P.O. Box 29720 NL-2502 LS THE HAGUE THE NETHERLANDS	
Telephone No. 70 3527500	
Facsimile No. 70 3527528	
Teleprinter No.	
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

ANGEL, Willem
Spiekerbrink 44
NL-8034 RB ZWOLLE
the Netherlands

This person is:

- ☐ applicant only
☒ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:
the Netherlands (NL)

State (that is, country) of residence:
the Netherlands (NL)

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

Box No.V DESIGNATION OF STATE

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☐ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☐ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☐ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☐ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | |
|--|--|
| <input type="checkbox"/> AE United Arab Emirates | <input type="checkbox"/> LC Saint Lucia |
| <input type="checkbox"/> AG Antigua and Barbuda | <input type="checkbox"/> LK Sri Lanka |
| <input type="checkbox"/> AL Albania | <input type="checkbox"/> LR Liberia |
| <input type="checkbox"/> AM Armenia | <input type="checkbox"/> LS Lesotho |
| <input type="checkbox"/> AT Austria | <input type="checkbox"/> LT Lithuania |
| <input type="checkbox"/> AU Australia | <input type="checkbox"/> LU Luxembourg |
| <input type="checkbox"/> AZ Azerbaijan | <input type="checkbox"/> LV Latvia |
| <input type="checkbox"/> BA Bosnia and Herzegovina | <input type="checkbox"/> MA Morocco |
| <input type="checkbox"/> BB Barbados | <input type="checkbox"/> MD Republic of Moldova |
| <input type="checkbox"/> BG Bulgaria | <input type="checkbox"/> MG Madagascar |
| <input type="checkbox"/> BR Brazil | <input type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input type="checkbox"/> BY Belarus | <input type="checkbox"/> MN Mongolia |
| <input type="checkbox"/> BZ Belize | <input type="checkbox"/> MW Malawi |
| <input type="checkbox"/> CA Canada | <input type="checkbox"/> MX Mexico |
| <input type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input type="checkbox"/> MZ Mozambique |
| <input type="checkbox"/> CN China | <input type="checkbox"/> NO Norway |
| <input type="checkbox"/> CR Costa Rica | <input type="checkbox"/> NZ New Zealand |
| <input type="checkbox"/> CU Cuba | <input type="checkbox"/> PL Poland |
| <input type="checkbox"/> CZ Czech Republic | <input type="checkbox"/> PT Portugal |
| <input type="checkbox"/> DE Germany | <input type="checkbox"/> RO Romania |
| <input type="checkbox"/> DK Denmark | <input type="checkbox"/> RU Russian Federation |
| <input type="checkbox"/> DM Dominica | <input type="checkbox"/> SD Sudan |
| <input type="checkbox"/> DZ Algeria | <input type="checkbox"/> SE Sweden |
| <input type="checkbox"/> EE Estonia | <input type="checkbox"/> SG Singapore |
| <input type="checkbox"/> ES Spain | <input type="checkbox"/> SI Slovenia |
| <input type="checkbox"/> FI Finland | <input type="checkbox"/> SK Slovakia |
| <input type="checkbox"/> GB United Kingdom | <input type="checkbox"/> SL Sierra Leone |
| <input type="checkbox"/> GD Grenada | <input type="checkbox"/> TJ Tajikistan |
| <input type="checkbox"/> GE Georgia | <input type="checkbox"/> TM Turkmenistan |
| <input type="checkbox"/> GH Ghana | <input type="checkbox"/> TR Turkey |
| <input type="checkbox"/> GM Gambia | <input type="checkbox"/> TT Trinidad and Tobago |
| <input type="checkbox"/> HR Croatia | <input type="checkbox"/> TZ United Republic of Tanzania |
| <input type="checkbox"/> HU Hungary | <input type="checkbox"/> UA Ukraine |
| <input type="checkbox"/> ID Indonesia | <input type="checkbox"/> UG Uganda |
| <input type="checkbox"/> IL Israel | <input type="checkbox"/> US United States of America |
| <input type="checkbox"/> IN India | <input type="checkbox"/> UZ Uzbekistan |
| <input type="checkbox"/> IS Iceland | <input type="checkbox"/> VN Viet Nam |
| <input type="checkbox"/> JP Japan | <input type="checkbox"/> YU Yugoslavia |
| <input type="checkbox"/> KE Kenya | <input type="checkbox"/> ZA South Africa |
| <input type="checkbox"/> KG Kyrgyzstan | <input type="checkbox"/> ZW Zimbabwe |
| <input type="checkbox"/> KP Democratic People's Republic of Korea | |
| <input type="checkbox"/> KR Republic of Korea | |
| <input type="checkbox"/> KZ Kazakhstan | |

Check-box reserved for designating States which have become party to the PCT after issuance of this sheet:



Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claim indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: regional Office	international application: receiving Office
item (1) 13 July 1999	1012592	the Netherlands		
item (2)				
item (3)				

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1

* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA / EPA

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)

15 March 2000

Number

SN 33633 NL

Country (or regional Office)

the Netherlands

Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request : 4
description (excluding sequence listing part) : 6
claims : 1
abstract : 1
drawings : 1
sequence listing part of description : _____

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Figure of the drawings which should accompany the abstract:

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Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

JORRITSMA, R.

Nederlandsch Octrooibureau, The Hague, 13 July 2000

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fig - 1

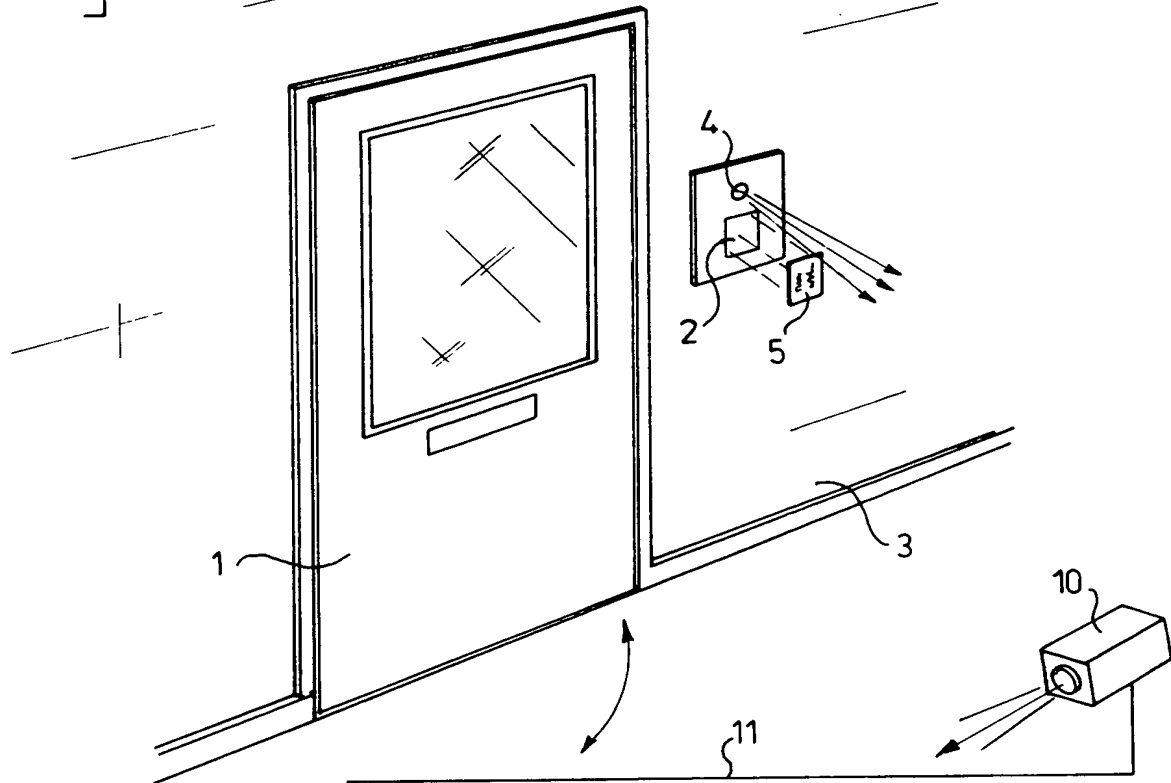
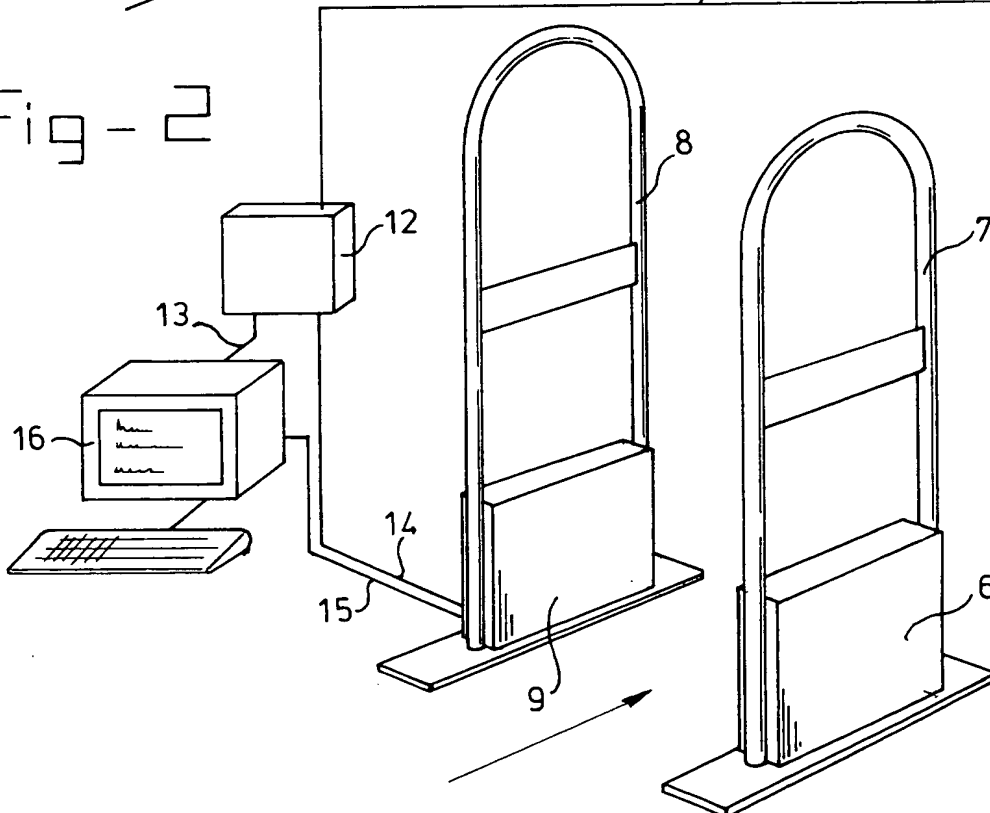


fig - 2



Detectiesysteem met videocamera

De uitvinding heeft betrekking op een detectiesysteem, omvattende ten minste en ontvanger, een detector en een element dat in een of meer voorafbepaalde toestanden
5 kan worden gebracht, waarbij de ontvanger reageert op de toestanden van het element wanneer dit in de nabijheid van de ontvanger is gebracht en de detector aanstuurt om een detectiesignaal af te geven dat behoort bij de toestand van het element.

Een dergelijk detectiesysteem wordt toegepast in huidige identificatiesystemen, waarbij als element veelvuldig gebruik wordt gemaakt van elektronische labels of
10 kaarten, welke in een voorafbepaalde toestand is of kan worden gebracht. In deze voorafbepaalde toestand is in de label of de kaart een identificatienummer opgenomen, waarbij wanneer de label of de kaart nabij de ontvanger wordt gebracht, het identificatienummer wordt gelezen en in de detector wordt bepaald of het een geldig identificatienummer is. Indien dit nummer geldig is geeft de detector een detectiesignaal, door
15 middel waarvan toegang wordt verleend aan de persoon die de kaart aanbiedt of bij zich draagt.

Het detectiesysteem kan ook worden toegepast in een diefstalbeveiligingssysteem, waarbij afhankelijk van de uitvoering het detectiesysteem kan bestaan uit een enkele antenne voor wand- of vloermontage of uit meerdere antennes die aan
20 weerszijden van een doorgang worden geplaatst. Ook in dit geval kan het element een label of kaart zijn, die op een te beveiligen artikel is aangebracht. Wanneer voor het artikel is betaald, wordt het label in een toestand gebracht, op welke toestand de ontvanger (ontvangantenne) reageert. De detector wordt door de ontvanger aangestuurd om afhankelijk van de toestand van het label (al dan niet afgerekend) al dan niet alarm
25 te geven.

De uitvinding heeft ten doel te voorzien in een detectiesysteem van een in de aanhef genoemde soort, waarbij een nog betere beveiliging mogelijk is.

Dit doel wordt volgens de uitvinding daardoor bereikt, dat een op de omgeving van de ontvanger gerichte videocamera aanwezig is voor het opnemen van de het element met zich meedragende drager en een geheugeninrichting is aangebracht voor het
30 opslaan van door de videocamera opgenomen beelden.

De uitvinding is gebaseerd op het inzicht, dat door de opslag van de identiteit van de drager van het element of de persoon die het aanbiedt, een extra controle ten

behoefte van de veiligheid mogelijk is. In situaties waarin een grote mate van veiligheid nuttig is of waar deze koppeling tussen drager en element gewenst is, kan met de uitvinding een gelijktijdige registratie van de toestand van het element of de informatie daarop plaatsvinden in relatie tot de identiteit van de drager of aanbieder.

5 Bij een uitvoeringsvorm van de uitvinding zijn de geheugenmiddelen ingericht voor een gedurende een voorafbepaalde tijdperiode tijdelijk vastleggen van de opgenomen videobeelden en het permanent opslaan van de tijdelijk vastgelegde videobeelden in responsie op het detectiesignaal uit de detector. Bijvoorbeeld kunnen van alle goederen, voertuigen, dieren of mensen die de ontvanger passeren continu video-
10 beelden worden opgeslagen in de geheugenmiddelen. Deze visuele identiteit van de goederen, voertuigen, dieren of mensen wordt slechts beperkt bewaard wanneer niet tevens door het detectiesysteem een voorafbepaalde toestand van het element, tag of kaart wordt herkend. Wordt een dergelijke toestand echter wel herkend, dan vindt registratie van deze toestand of informatie plaats tezamen met de opgeslagen bijbehorende
15 video-informatie. Door de maatregel van tijdelijke vastlegging van de videobeelden en het geconditioneerd permanent opslaan van de videobeelden kan worden volstaan met weinig geheugenruimte.

Bij voorkeur omvat de geheugeninrichting een tijdelijk geheugengedeelte en een permanent geheugengedeelte met daartussen een door het detectiesignaal bestuurd
20 overdrachtskanaal. Het tijdelijk geheugengedeelte kan worden gevormd door een FIFO-geheugen.

Verdere uitwerkingen en uitvoeringsvormen van de uitvinding zijn in de verdere volgconclusies omschreven.

25 De uitvinding zal hieronder nader worden toegelicht aan de hand van de tekeningen. In de tekeningen tonen:

Fig. 1 een uitvoeringsvorm van het detectiesysteem volgens de uitvinding toegepast bij een identificatiesysteem voor de toegangscontrole van de personen; en

Fig. 2 een uitvoeringsvorm van het detectiesysteem volgens de uitvinding, die als voorbeeld in een diefstalbeveiligingssysteem is toegepast.

30 In Fig. 1 is een deur 1 getoond, die toegang kan verschaffen tot een beveiligde ruimte. De deur 1 kan of wordt slechts geopend, wanneer een bevoegd persoon de beveiligde ruimte wil betreden. Om de deur te openen of het openen daarvan vrij te geven wordt aan bevoegde personen een element in de vorm van een identificatiekaart of -

label gegeven. Deze identificatiekaart is in een toestand gebracht, waarin op deze identificatiekaart een al dan niet gecodeerd identificatienummer is opgenomen.

Met de identificatielabels of -kaarten werkt een ontvanger 2 samen, die op de muur 3 naast de deur 1 is bevestigd. Nabij de ontvanger 2 is een videocel 4 geplaatst.

5 Wanneer de identificatielabel of -kaart nabij de ontvanger 2 wordt gebracht, wordt het identificatienummer of andere informatie op het identificatielabel al dan niet contactloos door de ontvanger gelezen. Tegelijkertijd neemt de videocel 4 videobeelden van de persoon die de identificatiekaart 5 aanbiedt op en de videobeelden worden in een niet in figuur 1 getoonde geheugeninrichting opgeslagen. De visuele identiteit van
10 de persoon wordt slechts beperkt bewaard en eerst permanent opgeslagen wanneer een identificatielabel of -kaart door een persoon wordt aangeboden. Het is ook mogelijk om de visuele identiteit van de persoon eerst permanent op te slaan wanneer een identificatienummer van een bevoegde persoon wordt gedetecteerd. Het is thans mogelijk om een identificatienummer of andere informatie samen met de opgeslagen
15 bijbehorende video-informatie te registreren. Ook achteraf is dan te controleren of het identificatienummer en het beeld van de persoon bij elkaar behoren en inderdaad slechts een bevoegde persoon toegang tot de beveiligde ruimte heeft gekregen.

Met het detectiesysteem is het ook mogelijk om van alle als drager fungerende goederen, voertuigen, dieren of andere objecten die het detectiesysteem passeren,
20 continu videobeelden op te slaan in een videogeheugeninrichting. Hierdoor kan een informatie van alle dragers van het element in relatie tot videobeelden daarvan worden opgeslagen.

In Fig. 2 is het detectiesysteem volgens de uitvinding toegepast in een diefstalbeveiligingssysteem. Het detectiesysteem omvat een zender 6 die door middel van een
25 daarmee verbonden zendantenne 7 een wisselend magnetisch veld opwekt. Het wisselend magnetisch veld wordt door de ontvangantenne 8 ontvangen en aan de ontvanger 9 doorgegeven.

Bij het diefstalbeveiligingssysteem worden elementen in de vorm van niet in de figuur getoonde diefstalbeveiligingslabels toegepast. Een diefstalbeveiligingslabel
30 omvat een drager of substraat 7 uit isolerend kunststofmateriaal, waarop een signaalelement of een afgestemde kring is aangebracht. De diefstalbeveiligingslabels worden aangebracht op artikelen die tegen diefstal moeten worden beveiligd.

Wanneer het artikel bij de kassa is betaald, wordt het diefstalbeveiligingslabel in een voorafbepaalde eerste toestand gebracht. Wanneer het artikel tussen de zendantenne 7 en de ontvangantenne 8 naar buiten wordt gebracht, zal er geen alarm worden gegeven. Wanneer het artikel echter niet is betaald, zal het diefstalbeveiligingslabel in
5 een tweede voorafbepaalde toestand (onbetaalde toestand), worden gebracht. Wanneer in dit geval het onbetaalde artikel tussen de zendantenne 7 en de ontvangantenne 8 naar buiten wordt gebracht, zal de ontvanger 9 op deze tweede toestand reageren en de in de ontvanger aanwezige niet apart getoonde detector zal een detectiesignaal afgeven om een alarm te besturen.

10 Nabij de ontvanger is een videocamera 10 opgesteld, die op de doorgang tussen de zendantenne 7 en ontvangantenne 8 is gericht. De ondersteuning van de videocamera kan op elke bekende wijze plaatsvinden en is daarom niet aangegeven. De videocamera kan ook op de ontvangantenne worden bevestigd. De videocamera 10 neemt videobeelden van de persoon op, die het artikel en dus het daarop aangebrachte
15 label of element opneemt. De videobeelden worden via de kabel 11 aan de geheugeninrichting 12 toegevoerd en daarin opgeslagen.

Bij de getoonde uitvoeringsvorm worden de videobeelden via de kabel 13 ook aan de PC 16 toegevoerd om deze videobeelden daarop weer te geven. Deze zichtbaar gemaakte videobeelden hebben een preventieve werking met betrekking tot diefstal.

20 De geheugeninrichting 12 bestaat uit een tijdelijk geheugengedeelte en een permanent geheugengedeelte met daartussen een overdrachtskanaal. Aangezien een dergelijke configuratie door elke normale deskundige kan worden geïmplementeerd is deze niet in detail weergegeven. In het tijdelijk geheugengedeelte worden van alle goederen en/of personen die het detectiesysteem passeren continu videobeelden
25 opgeslagen en deze visuele identiteit van de goederen en/of personen worden slechts beperkt, dat wil zeggen gedurende een betrekkelijk korte periode bewaard. Wanneer een diefstalbeveiligingslabel wordt gedetecteerd wordt het overdrachtskanaal tussen het tijdelijk geheugengedeelte en het permanent geheugengedeelte doorgeschakeld om de visuele identiteit uit het tijdelijk geheugengedeelte naar het permanente
30 geheugengedeelte over te dragen en in het laatstgenoemde gedeelte permanent op te slaan. De doorschakeling van het overdrachtskanaal kan ook door een detectiesignaal worden doorgeschakeld, dat behoort bij de toestand van het diefstalbeveiligingslabel,

*geheugen
inrichting
12*

die een onbetaald artikel voorstelt. Het detectiesignaal wordt via de kabel 14 aan de besturing van het overdrachtskanaal toegevoerd.

Het diefstalbeveiligingslabel kan ook zijn voorzien van een code die een bepaalde informatie inhoudt, zodat registratie van deze code plaats kan vinden tezamen met het opgeslagen bijbehorende visuele identiteitsinformatie. De door de ontvanger gelezen data kan ook via de kabel 15 aan de PC worden toegevoerd

Het tijdelijk geheugengedeelte kan ook worden gevormd door een schuifregister of FIFO-geheugen.

Omdat herkenbare beeldinformatie uitsluitend kan worden verkregen uit beelden die de aanbieder of drager van een artikel vanuit een bepaald gezichtsveld visualiseren, is het beeldmateriaal dat tijdens het identificeren van de label of kaart wordt opgeslagen veelal niet bruikbaar. Men moet kunnen beschikken over eerder opgenomen beelden dan beelden opgenomen op het moment van label of kaartdetectie. Door het continu opslaan van het beeldmateriaal voor een bepaalde tijd kan eerder vastgelegd beeldmateriaal worden gecombineerd en weggeschreven met de gedetecteerde informatie van label of kaart. Door toepassing van een tijdelijk geheugengedeelte en een permanent geheugengedeelte kan worden volstaan met een beperkte capaciteit van de totale geheugeninrichting.

Het detectiesysteem kan voorts worden voorzien van een tijd- en/of plaatsgever, die door het detectiesignaal uit de detector van de ontvanger wordt aangestuurd om tijdstip respectievelijk plaats gerelateerd aan de permanent opgeslagen videobeelden in het permanente geheugengedeelte te schrijven.

Het met de ontvanger samenwerkende element kan behalve een diefstalbeveiligingsfunctie ook data bevatten, die door middel van een leesinrichting wordt uitgelezen bijvoorbeeld bij het scannen van het artikel. Met het detectiesysteem volgens de uitvinding is de geheugeninrichting daarbij zodanig ingericht dat de data op het element gerelateerd aan de permanent opgeslagen videobeelden, van het artikel of van de persoon wordt opgeslagen.

Bij een andere uitvoeringsvorm van de uitvinding is het element voorzien van herkenningsdata van de bij het element behorende drager (artikel of persoon). Voorts is in het detectiesysteem een verwerkingsinrichting aanwezig, bijvoorbeeld de PC, die voorzien is van beeldherkennings-software voor het afleiden van herkenningsdata uit de permanent opgeslagen videobeelden. Het vergelijken van de afgeleide herkennings-

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data met de uit het element gelezen herkenningdata levert een informatie op die tot een nog grotere veiligheid kan leiden.

CONCLUSIES

1. Detectiesysteem, omvattende tenminste een ontvanger, een detector en een element dat in een of meer voorafbepaalde toestanden kan worden gebracht, waarbij de ontvanger reageert op de toestanden van het element wanneer dit in de nabijheid van de ontvanger is gebracht en de detector aanstuurt om een detectiesignaal af te geven dat behoort bij de toestand van het element, met het kenmerk, dat een op de omgeving van de ontvanger gerichte videocamera aanwezig is voor het opnemen van de het element met zich meedragende drager en een geheugeninrichting is aangebracht voor het opslaan van door de videocamera opgenomen beelden.

2. Detectiesysteem volgens conclusie 1, met het kenmerk, dat de geheugeninrichting is ingericht voor het gedurende een voorafbepaalde tijdsperiode tijdelijk vastleggen van de opgenomen videobeelden en het permanent opslaan van de tijdelijk vastgelegde videobeelden in responsie op het detectiesignaal uit de detector.

3. Detectiesysteem volgens conclusie 2, met het kenmerk, dat de geheugeninrichting een tijdelijk geheugengedeelte en een permanent geheugengedeelte met daartussen een door het detectiesignaal bestuurd overdrachtskanaal omvat.

4. Detectiesysteem volgens conclusie 3, met het kenmerk, dat het tijdelijk geheugengedeelte wordt gevormd door een FIFO-geheugen.

5. Detectiesysteem volgens conclusie een van de conclusies 1-4, met het kenmerk, dat een tijd- en/of plaatsgever aanwezig is die door het detectiesignaal uit de detector wordt aangestuurd om tijdstip respectievelijk plaats gerelateerd aan de permanent opgeslagen videobeelden in het permanent geheugengedeelte te schrijven.

6. Detectiesysteem volgens een van de conclusies 1-5, met het kenmerk, dat een leesinrichting is aangebracht voor het uitlezen van op het element aanwezige data.

7. Detectiesysteem volgens conclusies 6, met het kenmerk, dat de geheugeninrichting is ingericht voor het gerelateerd aan elkaar opslaan van de data op het element en de permanent opgeslagen videobeelden.

8. Detectiesysteem volgens conclusies 7, met het kenmerk, dat het element is voorzien van herkenningsdata van de bij het element behorende drager en dat er is voorzien in een verwerkingsinrichting die voorzien is van beeldherkenningssoftware voor het afleiden van herkenningsdata uit de permanent opgeslagen videobeelden en het vergelijken hiervan met de uit het element gelezen herkenningsdata.

UITTREKSEL

- . Detectiesysteem, omvattende tenminste een ontvanger, een detector en een element dat in een of meer voorafbepaalde toestanden kan worden gebracht. De ontvanger
- 5 reageert op de toestanden van het element wanneer dit in de nabijheid van de ontvanger is gebracht. De ontvanger stuurt de detector aan om een detectiesignaal af te geven dat behoort bij de toestand van het element. Een op de omgeving van de ontvanger gerichte videocamera aanwezig is voor het opnemen van de het element met zich meedragende drager en een geheugeninrichting is aangebracht voor het opslaan van door de
- 10 videocamera opgenomen beelden.

New introductory part of the specification BO 42685

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28. 08. 2001

Detection system with video camera

(79)

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The invention relates to a detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states, the receiver reacting to the states of the element when the latter is brought into the vicinity of the receiver and controlling the detector to emit a detection signal that is associated with the state of the element.

10

A detection system of this type is used in current identification systems, electronic badges or cards, which are in, or can be brought into, a predetermined state, being widely used as the element. In this predetermined state an identification number has been incorporated in the badge or the card, the identification number being read when the badge or the card is brought into the vicinity of the receiver and the detector determining whether the identification number is a valid identification number. If this number is valid the detector emits a detection signal, by means of which access is granted to the person submitting or wearing the card.

15

The detection system can also be used in an anti-theft system, in which case, depending on the construction, the detection system can consist of a single antenna for wall or floor mounting or of several antennas which are positioned on either side of a passageway. In this case also the element can be a tag or card which has been affixed to the article to be provided with security. If payment has been made for the article the tag is brought into a state, the receiver (receiver antenna) reacting to said state. The detector is controlled by the receiver to emit an alarm or no alarm, depending on the state of the tag (paid for or not).

20

25

The aim of the invention is to provide a detection system of a type mentioned in the preamble with which even better security is possible.

Said aim is achieved according to the invention in that a video camera focused on the surroundings of the receiver is present for recording the wearer wearing the element and a memory device is fitted for storing the images recorded by the video camera.

30

The invention is based on the insight that by storing the identity of the person wearing the element or submitting the element an additional check for security purposes is possible. In situations where a substantial degree of security is useful or where this link between wearer

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and element is desirable, simultaneous recording of the state of the element, or the information thereon, in relation to the identity of the wearer or the person submitting the element can take place by means of the invention.

From WO 98/11520 A1 a security system is known which comprises an interrogator 42
5 suitable for use with a security tag. The interrogator includes a receiver 50 connected to the input of the data processing and control circuitry (54) for processing and controlling the captured information on the security tag. This known system further includes a video camera (58) for capturing an image of a predetermined zone and a video recorder for storing the video signal on a memory such as a videotape. The video recorder is either a continuous or
10 event-oriented record of activity in the detection zone.

The problem is that because recognisable image information can only be obtained from images which show the person to be captured from a specific view point and the image material that is stored during identification of a tag or card is often not usable. It must be possible to have available images recorded earlier than images recorded at the point in time
15 when the tag is detected.

The aim of the invention is further to provide a detection system in which said problem is removed.

Said aim is achieved according to the invention in that the memory device is equipped for temporary continuous storage of the captured video images for a predetermined period
20 and permanent storage of the temporarily stored video images in response to the detection signal from the detector.

~~In one embodiment of the invention the memory means are equipped for temporary storage of the recorded video images for a predetermined period and permanent storage of the temporarily stored video images in response to the detection signal from the detector.~~ For example, continuous video images of all goods, vehicles, animals or people passing the receiver can be stored in the memory means. This visual identity of the goods, vehicles, animals or people is stored for only a limited period if a predetermined state of the element, badge, tag or card is not also recognised by the detection system. However, if such a state is recognised, recording of this state or information then takes place together with the stored associated video information. As a result of the measure of temporary storage of the video images and conditional permanent storage of the video images a small memory capacity can suffice.

Preferably, the memory device comprises a temporary memory section and a permanent memory section with a transfer channel, controlled by the detection signal, between them. The temporary memory section can comprise a FIFO memory.

Further developments and embodiments of the invention are described in the further dependent claims.

The invention will be explained in more detail below with reference to the drawings. In the drawings:

Fig. 1 shows an embodiment of the detection system according to the invention used with an identification system for access control of persons; and

Fig. 2 shows an embodiment of the detection system according to the invention which, by way of example, is used in an anti-theft security system.

Fig. 1 shows a door 1 that can give access to a secure area. The door 1 can be opened or is opened only when an authorised person wishes to enter the secure area. Authorised persons are given an element in the form of an identity card or badge in order to open the door or to release the opening thereof. This identity card is brought into a state in which an identification number, which may or may not be encoded, has been incorporated on said identity card.

A receiver 2, which is fixed to the wall 3 alongside the door 1, operates in conjunction with the identity badges or cards. A video cell 4 is positioned close to the receiver 2.

When the identity badge or card is brought into the vicinity of the receiver 2 the identification number or other information on the identity badge is read by the receiver, optionally contact-free. At the same time the video cell 4 records video images of the person submitting the identity card 5 and the video images are stored in a memory device, which is

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CLAIMS

1. Detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states, the receiver reacting to the states
5 of the element when the latter is brought into the vicinity of the receiver and controlling the detector to emit a detection signal that is associated with the state of the element, and further comprising a video camera focused on the surroundings of the receiver for recording the wearer wearing the element and a memory device fitted for storing the images captured by the video camera, characterised in that the memory device is
10 equipped for both temporary continuous storage of the captured video images for a predetermined period and permanent storage of the temporarily stored video images in response to the detection signal from the detector.

2. Detection system according to Claim 1, characterised in that the memory device
15 comprises a temporary memory section and a permanent memory section connected to each other by a transfer channel, controlled by the detection signal.

3. Detection system according to claim 2, wherein the element is an activatable tag, characterised in that the detection signal is only emitted by an active tag.

4. Detection system according to Claim 2 or 3, characterised in that the temporary
20 memory section comprises a FIFO memory.

5. Detection system according to Claim 1-4, characterised in that the memory device is equipped for storing the data on the element and the permanently stored video images in relation to one another.

6. Detection system according to Claim 5, characterised in that the element is
25 provided with recognition data on the wearer associated with the element and in that a processing device is provided which is provided with image recognition software for deriving recognition data from the permanently stored video images and comparing these with the recognition data read from the element.

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(54) Title: Detection system with video camera

(57) Abstract: Detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states. The receiver reacts to the states of the element when the latter is brought into the vicinity of the receiver. The receiver controls the detector in order to emit a detection signal that is associated with the state of the element. There is a video camera focused on the surroundings of the receiver for recording the wearer wearing the element and a memory device is installed for storing the images recorded by the video camera.

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Detection system with video camera

The invention relates to a detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states, the receiver reacting to the states of the element when the latter is brought into the vicinity of the receiver and controlling the detector to emit a detection signal that is associated with the state of the element.

A detection system of this type is used in current identification systems, electronic badges or cards, which are in, or can be brought into, a predetermined state, being widely used as the element. In this predetermined state an identification number has been incorporated in the badge or the card, the identification number being read when the badge or the card is brought into the vicinity of the receiver and the detector determining whether the identification number is a valid identification number. If this number is valid the detector emits a detection signal, by means of which access is granted to the person submitting or wearing the card.

The detection system can also be used in an anti-theft system, in which case, depending on the construction, the detection system can consist of a single antenna for wall or floor mounting or of several antennas which are positioned on either side of a passageway. In this case also the element can be a tag or card which has been affixed to the article to be provided with security. If payment has been made for the article the tag is brought into a state, the receiver (receiver antenna) reacting to said state. The detector is controlled by the receiver to emit an alarm or no alarm, depending on the state of the tag (paid for or not).

The aim of the invention is to provide a detection system of a type mentioned in the preamble with which even better security is possible.

Said aim is achieved according to the invention in that a video camera focused on the surroundings of the receiver is present for recording the wearer wearing the element and a memory device is fitted for storing the images recorded by the video camera.

The invention is based on the insight that by storing the identity of the person wearing the element or submitting the element an additional check for security purposes is possible. In situations where a substantial degree of security is useful or where this link between wearer and element is desirable, simultaneous recording of the state of the element, or the information thereon, in relation to the identity of the wearer or the person submitting the element can take place by means of the invention.

In one embodiment of the invention the memory means are equipped for temporary storage of the recorded video images for a predetermined period and permanent storage of the temporarily stored video images in response to the detection signal from the detector. For example, continuous video images of all goods, vehicles, animals or people passing the receiver can be stored in the memory means. This visual identity of the goods, vehicles, animals or people is stored for only a limited period if a predetermined state of the element, badge, tag or card is not also recognised by the detection system. However, if such a state is recognised, recording of this state or information then takes place together with the stored associated video information. As a result of the measure of temporary storage of the video images and conditional permanent storage of the video images a small memory capacity can suffice.

Preferably, the memory device comprises a temporary memory section and a permanent memory section with a transfer channel, controlled by the detection signal, between them. The temporary memory section can comprise a FIFO memory.

Further developments and embodiments of the invention are described in the further dependent claims.

The invention will be explained in more detail below with reference to the drawings. In the drawings:

Fig. 1 shows an embodiment of the detection system according to the invention used with an identification system for access control of persons; and

Fig. 2 shows an embodiment of the detection system according to the invention which, by way of example, is used in an anti-theft security system.

Fig. 1 shows a door 1 that can give access to a secure area. The door 1 can be opened or is opened only when an authorised person wishes to enter the secure area. Authorised persons are given an element in the form of an identity card or badge in order to open the door or to release the opening thereof. This identity card is brought into a state in which an identification number, which may or may not be encoded, has been incorporated on said identity card.

A receiver 2, which is fixed to the wall 3 alongside the door 1, operates in conjunction with the identity badges or cards. A video cell 4 is positioned close to the receiver 2.

When the identity badge or card is brought into the vicinity of the receiver 2 the identification number or other information on the identity badge is read by the receiver, optionally contact-free. At the same time the video cell 4 records video images of the person submitting the identity card 5 and the video images are stored in a memory device, which is

not shown in Figure 1. The visual identity of the person is stored for only a limited period and is permanently stored only if an identity badge or card is submitted by a person. It is also possible to store the visual identity of the person permanently only if an identification number of an authorised person is detected. It is now possible to record an identification number or
5 other information together with the associated stored video information. It is then possible to check, even later on, whether the identification number and the image of the person belong to one another and in fact only an authorised person has gained access to the secure area.

Using the detection system it is also possible continuously to store video images, in a video memory device, of all goods, vehicles, animals or other objects which are acting as
10 wearers and which pass the detection system. By this means information on all element wearers in relation to video images of said wearers can be stored.

In Fig. 2 the detection system according to the invention is used in an anti-theft security system. The detection system comprises a transmitter 6 which by means of a transmitter antenna 7 connected thereto generates an alternating magnetic field. The alternating magnetic
15 field is received by the receiver antenna 8 and transmitted to the receiver 9.

In the case of the anti-theft security system elements in the form of anti-theft security tags, which are not shown in the figure, are employed. An anti-theft security tag comprises a carrier or substrate made of insulating plastic material, on which a signal element or a matched circuit has been arranged. The anti-theft security tags are fitted to articles which have
20 to be protected against theft.

If the article has been paid for at the checkout, the anti-theft security tag is brought into a predetermined first state. No alarm will be given when the article is taken outside between the transmitter antenna 7 and the receiver antenna 8. However, if the article has not been paid for the anti-theft security tag will be kept in a second predetermined state (unpaid state).
25 When, in this case, the article that has not been paid for is taken outside between the transmitter antenna 7 and the receiver antenna 8 the receiver 9 will react to this second state and the detector in the receiver, which is not shown separately, will emit a detection signal to control an alarm.

A video camera 10, which is focused on the passageway between the transmitter
30 antenna 7 and receiver antenna 8 has been set up close to the receiver. The support for the video camera can be provided in any known manner and is therefore not indicated. The video camera can also be fixed to the receiver antenna. The video camera 10 records video images of the person who picks up the article and thus the tag or element affixed thereto. The video

images are fed via the cable 11 to the memory device 12 and stored therein.

In the embodiment shown the video images are also fed via the cable 13 to the PC 16 in order to display these video images thereon. These video images rendered visible have a preventive action with regard to theft.

5 The memory device 12 consists of a temporary memory section and a permanent memory section with a transfer channel between them. Since such a configuration can be implemented by any ordinary person skilled in the art, it is not shown in detail. Video images of all goods and/or persons who pass by the detection system are continuously stored in the temporary memory section and this visual identity of the goods and/or persons is stored for
10 only a limited period, that is to say for a relatively short period. When an anti-theft security tag is detected the transfer channel between the temporary memory section and the permanent memory section is activated to transfer the visual identity from the temporary memory section to the permanent memory section and to store it permanently in the latter section. Activation of the transfer channel can also be effected by means of a detection signal, associated with the
15 state of the anti-theft security tag, which represents an article that has not been paid for. The detection signal is fed via the cable 14 to the control for the transfer channel.

The anti-theft security tag can also have been provided with a code which contains specific information, so that recording this code is able to take place together with storage of associated visual identification information. The data read by the receiver can also be fed to
20 the PC via the cable 15.

The temporary memory section can also comprise a sliding register or FIFO memory.

Because recognisable image information can be obtained only from images which show the person submitting or wearing an article from a specific viewpoint, the image material that is stored during identification of the badge, tag or card is often not usable. It must be possible
25 to have available images recorded earlier than images recorded at the point in time when the badge, tag or card is detected. As a result of the continuous storage of the image material for a specific period, image material recorded earlier can be combined and recorded with the detected information on the badge, tag or card. As a result of the use of a temporary memory section and a permanent memory section it is possible for a limited capacity of the overall
30 memory device to suffice.

The detection system can also be provided with a time and/or location indicator which is controlled by the detection signal from the detector in the receiver in order to record the time and/or location relating to the permanently stored video images in the permanent

memory section.

In addition to having an anti-theft security function, the element working in conjunction with the receiver can also contain data which are read by means of a reader, for example when scanning the article. With the detection system according to the invention the memory
5 device is in this case equipped such that the data on the element are stored in relation to the permanently stored video images of the article or of the person.

In another embodiment of the invention the element is provided with recognition data on the wearer (article or person) associated with the element. Furthermore, there is a processing device, for example the PC, in the detection system, which is provided with image
10 recognition software for deriving recognition data from the permanently stored video images. Comparison of the derived recognition data with the recognition data read from the element yields information which can lead to even greater security.

CLAIMS

1. Detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states, the receiver reacting to the states of the element when the latter is brought into the vicinity of the receiver and controlling the detector to emit a detection signal that is associated with the state of the element, characterised in that a video camera focused on the surroundings of the receiver is present for recording the wearer wearing the element and a memory device is fitted for storing the images recorded by the video camera.

2. Detection system according to Claim 1, characterised in that the memory device is equipped for temporary storage of the recorded video images for a predetermined period and permanent storage of the temporarily stored video images in response to the detection signal from the detector.

3. Detection system according to Claim 2, characterised in that the memory device comprises a temporary memory section and a permanent memory section with a transfer channel, controlled by the detection signal, between them.

4. Detection system according to Claim 3, characterised in that the temporary memory section comprises a FIFO memory.

5. Detection system according to one of Claims 1 - 4, characterised in that a time and/or location indicator is present which is controlled by the detection signal from the detector in order to be able to record the time and/or location relating to the permanently stored video images in the permanent memory section.

6. Detection system according to one of Claims 1 - 5, characterised in that a reader is fitted for reading data contained on the element.

7. Detection system according to Claim 6, characterised in that the memory device is equipped for storing the data on the element and the permanently stored video images in relation to one another.

8. Detection system according to Claim 7, characterised in that the element is provided with recognition data on the wearer associated with the element and in that a processing device is provided which is provided with image recognition software for deriving recognition data from the permanently stored video images and comparing these with the recognition data read from the element.

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fig - 1

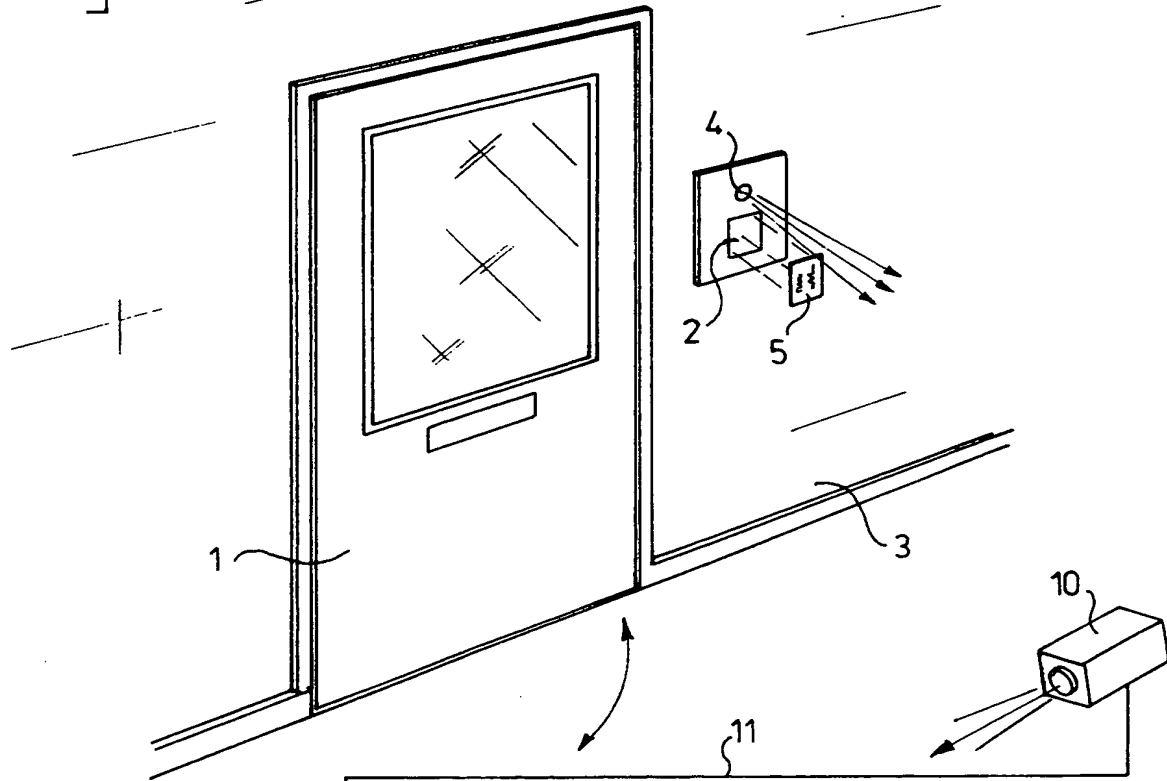
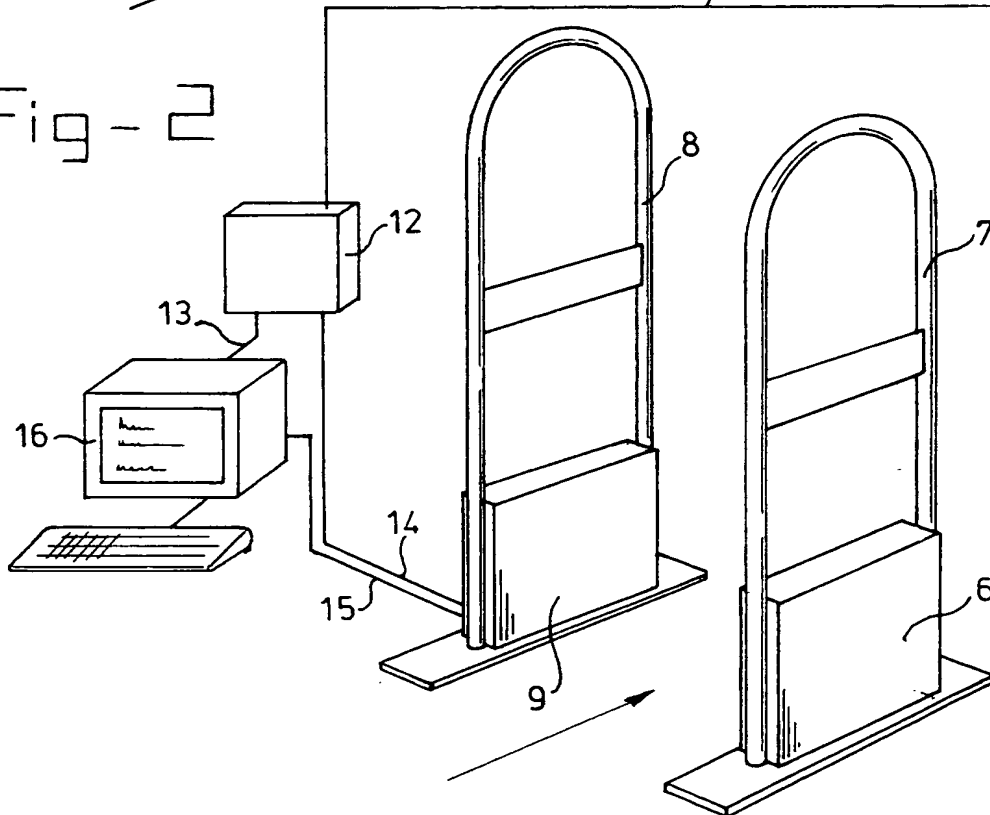


fig - 2



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(57) Abstract: Detection system comprising at least a receiver, a detector and an element that can be brought into one or more predetermined states. The receiver reacts to the states of the element when the latter is brought into the vicinity of the receiver. The receiver controls the detector in order to emit a detection signal that is associated with the state of the element. There is a video camera focused on the surroundings of the receiver for recording the wearer wearing the element and a memory device is installed for storing the images recorded by the video camera.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	WO 93 09621 A (LEE KWANG SIL) 13 May 1993 (1993-05-13) abstract page 19, line 31 -page 20, line 7	1-8
X	EP 0 921 505 A (INT COMPUTERS LTD) 9 June 1999 (1999-06-09) the whole document	1-8
X	WO 98 11520 A (CHECKPOINT SYSTEMS INC) 19 March 1998 (1998-03-19) abstract	1-8

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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